Future-ready data centers for government agencies

A software-defined data center supports enterprise activities in a more flexible and cost-effective way

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A SOFTWARE-DEFINED data center (SDDC) virtualizes all the infrastructure elements that government agencies are using and delivers them in an as-a-service model. Specifically, compute, networking, storage, security and services are abstracted and delivered as automated, policy-driven software.

That virtualized, programmatic approach enables SDDCs to break down IT silos and simplify complexities. The benefits include gains in performance and availability and reductions in costs and security risks. An SDDC enables applications to be deployed more quickly and IT resources used more effectively through the use of cloud-based services.

THE KEY COMPONENTS OF AN SDDC

SDDCs provide a cloud-like capability within agencies' own walls so they can begin deploying applications in a controlled space. It gives them the ability to learn and gain a better understanding of cloud operations and optimization within any given environment.

The approach plays a vital role in a multi-cloud ecosystem because agencies can easily transition workloads between the SDDC and the cloud or bring cloud capability back into their own environment while still operating in a model that is similar to the cloud.

To support enterprise applications in a more flexible and cost-effective way, SDDCs combine several key elements. One essential component is compute or server virtualization, which decouples a workload or service from the underlying hardware. Software-defined storage ensures the availability of storage for various applications and can link data to a specific workload, while software-defined networking (SDN) uses software to manage and adapt the flow of information to reflect changing demands.

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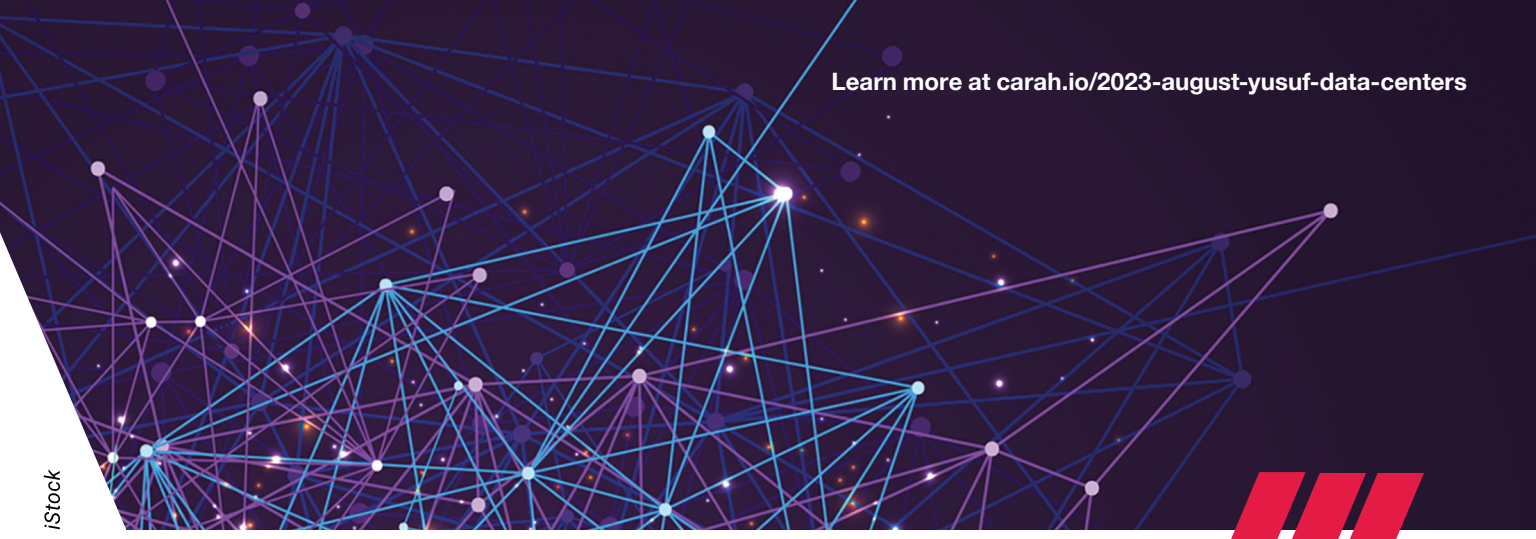
With SDN, workloads can live on their own networks, where they can be isolated and walled off from the rest of the data center for security purposes. SDN plays a vital role in providing extensibility across cloud communications in an SDDC.

In addition, management software works across IT silos to generate a centralized view of network resources, thereby reducing the number of tools needed to build and manage the IT infrastructure. Finally, an SDDC enables security principles to be applied to individual ecosystems, which means a given workload can have its own unique, policy-based security.

ROBUST SDDCs THAT INTEGRATE INTO MULTI-CLOUD STRATEGIES

There are many factors to keep in mind when adopting an SDDC, and every agency will be in a different starting place. Therefore, agencies should begin by developing a clear understanding of their existing environments and how an SDDC can complement their efforts.

In addition, a commitment to security and zero trust in particular is vital. And so is the ability to provide a catalog of enterprise-grade services. When an agency creates an SDDC, it's essentially creating its own cloud, and



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that means it will need to offer a variety of services upfront as well as manage and run cloud operations and provide as-a-service capabilities to users.

Dell Technologies builds robust SDDCs that can integrate into agencies' multi-cloud strategies in a fashion that best supports their mission and enables seamless communication across these complex IT ecosystems.

By extending the concept of virtualization to the entire data center, SDDCs makes it possible to automate all areas of the data center and achieve IT as a service. Therefore, an SDDC is a natural next step in the evolution of future-ready data centers for government agencies. ■

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